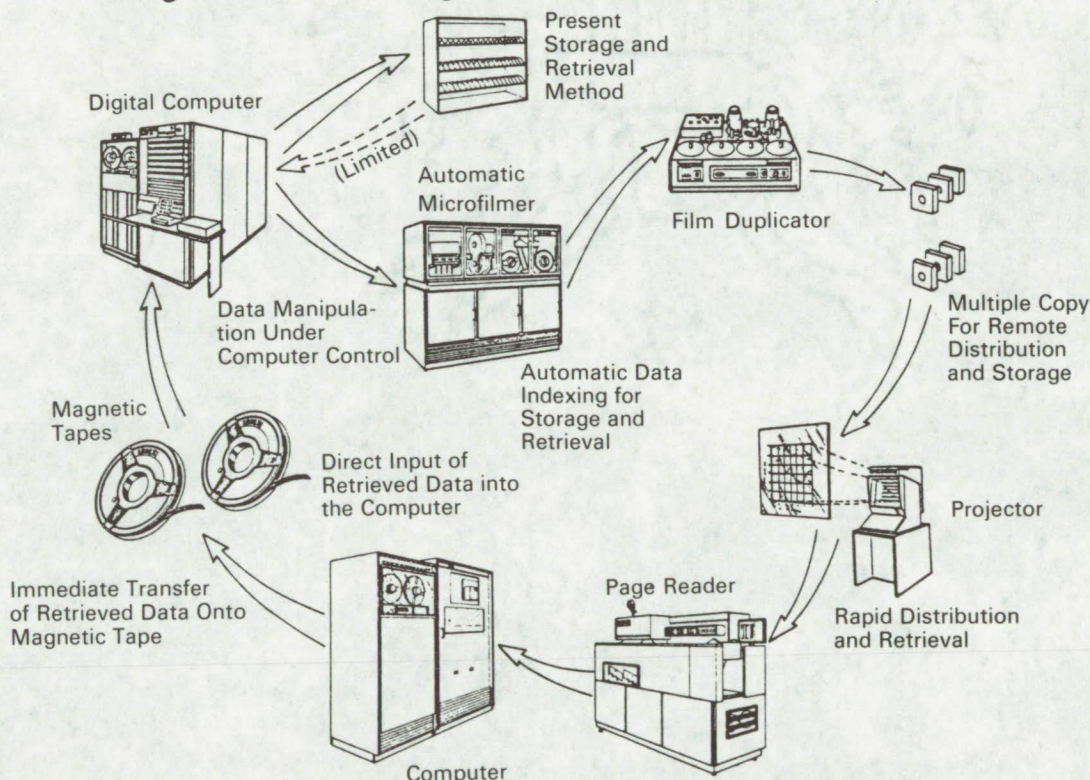


NASA TECH BRIEF



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Long-Term Data Storage and Retrieval System, a Concept



A proposed combination magnetic tape/microfilm system is believed to have potential for reliable long-term storage (periods of up to 50 years) and immediate retrieval of any computer-compatible data. The recording, storage, and retrieval of data would be accomplished by computers, without manual intervention. Present data storage and retrieval systems use magnetic tape which have a limited effective data-storage life (4 to 5 years) and relatively large storage space (approximately 56 cubic feet for 120 tapes). With the proposed system, it should be possible to retrieve data (viewing manually or reading into a

computer) in less than 1 hour after being stored for periods of up to 50 years (compared to days required for magnetic tape stored for more than 4-5 years). An amount of data equivalent to that stored on 120 magnetic tapes could be stored on 16 mm microfilm in approximately 4 cubic feet.

In its basic form, the proposed system would use commercially available equipment. The data from a digital computer would be recorded and stored on microfilm. The microfilm data could, if desired, be retrieved and viewed on a display screen. The micro-filmed data can also be retrieved and read directly into

(continued overleaf)

a computer. The page reader, responding to commands from the computer, reads the data from the microfilm and transfers this digitized data to a 7-track magnetic tape. A computer listing of the data can also be produced. The magnetic tape can be read into the digital computer and the data retrieved when required over short-term periods.

The basic system could be adapted to the latest developments in lasers and microfilm miniaturization.

Note:

No additional documentation is available. Inquiries may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B68-10505

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No patent action is contemplated by NASA.

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